TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
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Aerial Spray Tests with 2,4,5-T for Scrub Oak Control in Lower Michigan

Low concentrations and volumes per acre of 2,4,5-T ester applied aerially during August for pine release resulted in apparent kill of scrub oaks without injury to the pines, according to tests started by the Station in northern Lower Michigan in 1952. In this way large areas can be treated in a short time at a relatively low cost compared with present ground methods of application.

The first aerial spray test was made on August 28, 1952, in a mixed stand of scrub white, red, and northern pin oaks overtopping a 15-year-old red pine plantation. The overstory averaged 60 square feet of basal area per acre. The oaks ranged from 10 to 50 feet in height and from 1 to 12 inches in diameter. The pines were 4 to 8 feet tall. Two 4.0-acre strips (2x20 chains each) were sprayed aerially as follows:

Treatment A - 1 pound (.25 gallon) of 2,4,5-T acid equivalent in 1.0 gallon fuel oil and 3.75 gallons water applied at the rate of 5 gallons of mixture per acre.

Treatment B - 2 pounds (.50 gallon) of 2,4,5-T acid equivalent in 1.0 gallon fuel oil and 3.50 gallons water applied at the rate of 5 gallons of mixture per acre.

In early August of 1953 similar but larger-scale tests were made by the Lower Michigan National Forest using 1.0 pound of 2,4,5-T acid equivalent in .50 gallon fuel oil and 1.75 gallons of water applied at the rate of 2.5 gallons of the mixture per acre.

Results two complete growing seasons after the first test and one growing season after the second test show: (1) Most oaks are completely defoliated and show few signs of life; about 10 percent have some live foliage on their lower branches and stems but this new growth appears to be dying the second year; sprouting of oaks has been negligible although scattered oak, other hardwood, and pine seedlings are appearing in the ground cover. (2) Effects of the chemical on clumps of bigtooth aspen were spotty; aspen sprouting did not appear to be affected. (3) The occasional red maples, pin cherries, and juneberries present were killed. (4) The red, white, or jack pines sprayed in August are now growing relatively free of overhead shade without apparent injury. Previous tests indicated that pines are susceptible to chemicals during the active growing season. (5) No important differences occurred between treatments.

From these tests it appears that 1 pound 2,4,5-T acid equivalent in 2.25 gallons of oil and water applied at the rate of 2.5 gallons per acre during August will provide effective scrub oak control in timber stand improvement operations for about $3.50 per acre, including plane, chemical, and overhead costs.

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